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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,077	12/03/2001	Bruno Colin	BONN-060	7932
7590	05/13/2004		EXAMINER	
James C Lydon Suite 100 100 Daingerfield Road Alexandria, VA 22314			QUAN, ELIZABETH S	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/936,077

Applicant(s)

COLIN ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/7/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0304.2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the apparatus with at least two deep grooves and at least two shallow grooves in an overhead view and partial, transverse cross-section through A-A of the overhead view must be shown or the feature(s) canceled from the claim(s). The figures either show one shallow groove next to a deep groove, two shallow grooves surrounding a deep groove, or two deep grooves surrounding a shallow groove. Technically, in these figures, there is one deep continuous groove encircling one shallow groove or one shallow continuous groove encircling one deep groove. A partial, transverse cross-section through A-A of figure 1 appears to show two deep grooves and one shallow groove or two shallow grooves and one deep groove in figures 2-5. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 9, 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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4. Claims 9, 15, and 16 are rendered indefinite by the phrase "capillary action is not *enabled*" since capillary action is always *enabled* to some extent. Although capillary action may occur in insignificant amounts, a small amount of liquid will inevitably be distributed by capillary action. As long as there is a passage through which capillary action may distribute liquid, capillary action is possible or enabled. For examining purposes, the phrase "capillary action is not enabled" and "capillary is enabled" has been interpreted as low capillary action since conditions are not conducive to capillary action and high capillary action since conditions are conducive to capillary action, respectively.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 9 and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,286,454 to Nilsson et al.

Nilsson et al. disclose an apparatus comprising at least one planar surface (10) wherein at least two compartments (12,14,16,17) are located and defined by a partition (11) (fig. 2).

The compartments comprise two different types of grooves including deep grooves (14,17) and shallow grooves (12,16) (fig. 2). The compartments create a space for making it possible to displace at least two liquid samples independently of one another (fig. 2). The shallow groove (12), which is adapted to take up a liquid sample by capillary action through a capillary inlet (13), may be deposited with a reagent or modifying by evaporation, freeze-drying,

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spraying, screen-printing, or other suitable ways for reacting with the liquid sample (col. 3, line 19-col. 4, line 23). The liquid sample and reagent or modifying agent passes into deep groove (14), which may include a reagent or modifying agent for reacting with the liquid sample (col. 3, lines 46 and 47). Since the reagent or modifying agent are deposited in shallow groove (12) and/or deep groove (14) prior to distributing the liquid sample through the capillary inlet (13), the reagent or modifying agent may be considered a liquid sample displaced independently of the liquid sample through the capillary inlet (13) since the instant specification describes that the at least two liquid samples can be displaced in an independent way and brought together so that they react with one another (page 1, lines 6-8). Furthermore, the recitation "the compartments creating a space which makes it possible to displace at least two liquid samples independently one another" is considered by the Examiner a recitation of intended use of the claimed invention. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPQ 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

The deep grooves (14,17) are capable of partitioning samples from one another by having the deep grooves sufficiently deep and wide in relation to the partition such that capillary action of a sample is not enabled (col. 3, line 19-col. 4, line 23). Since the deep grooves exert low capillary action, the width and depth of the deep grooves support the non-capillary nature of the deep groove (col. 3, line 19-col. 4, line 23). The shallow grooves (12,16) are capable of

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receiving a sample by having a certain depth in relation to the partition such that capillary action is enabled (col. 3, line 19-col. 4, line 23). The two different types of grooves make it possible to direct sample movements by altering the orientation of the apparatus (col. 3, line 19-col. 4, line 23). The shallow grooves (12,16) are adjacent to the deep grooves (14,17) such that the deep grooves (14,17) are positioned between two shallow grooves (12,16) (fig. 2; col. 3, line 19-col. 4, line 23). At least one end of the shallow grooves (12,16) meets the ends of the deep grooves to create a reaction zone where at least two liquid samples may be brought together (col. 3, line 19-col. 4, line 23). Since the reaction zone is the intersection at which the deep and shallow grooves meet or overlap, the reaction zone may be considered both capillary and non-capillary.

#### ***Response to Arguments***

7. Applicant's arguments filed 3/4/2004 have been fully considered but they are not persuasive.
8. Applicant argues that Nilsson '454 fails to disclose either the grooves or the "two liquid samples" features of the claimed apparatus. Applicant further argues that Nilsson '454 discloses a cuvette having different compartments (12,17,21,28,etc.) linked by channels (14,20,etc.), which cannot be considered grooves (i.e. long and narrow notches). Examiner maintains that elements (14,17,12,16) are grooves. Nilsson '454 refers to them as cavities or channel, which are grooves or notches. Comparing figs. 2-6 of the instant application with fig. 2 of Nilsson et al., the grooves of the instant application are virtually the same as the grooves (14,17,12,16) of Nilsson et al. Both have grooves that are indentations on the planar surface, which is covered by a partition. According to Merriam-Webster Collegiate Dictionary, a groove is defined as a long narrow channel or depression. The grooves of Nilsson et al. are channels or depressions, and

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they are considerably long and narrow to the extent and proportion as that shown in figs. 2-6 of the instant application. Fig. 1 of Nilsson et al. shows the grooves (14,17,12,16) are considerably long and narrow since each of the grooves is less in width compared to length.

9. Applicant argues that the elements are all interdependent such that the analysis fluid is transferred from one element to the next element: liquid is transferred from upper section (12) (which is capillary) to non-capillary lower section (17) via non-capillary channel (14) and capillary cavity (16). Applicant concludes that this configuration clearly does not disclose the displacement of two liquid samples independently of one another. Examiner maintains that interdependent elements do not preclude independent displacement of two liquid samples. A first sample may be distributed into the apparatus and lodged in one of the grooves. When a second sample is distributed into the apparatus, it will mix with the first sample that is lodged in one of the grooves. These samples are considered to be independently displaced since they were distributed at different times. Furthermore, "at least two liquid samples" has not been positively recited. The claim recites "the compartments creating a space which makes it possible to displace at least two liquid samples independently of one another", such that the compartments along with the space need only the capability of displacing at least two liquid samples independently of one another since it is a recitation of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. In this case, there is no structural difference between the claimed invention and the prior art. Furthermore, the compartments and space are capable of displacing two liquid samples

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independently of one another. As mentioned above, liquid samples may be displaced independently or at different times through the compartments and space.

10. Applicant argues that Nilsson '454 fails to suggest the claimed apparatus to one of ordinary skill in the art. Applicant further argues that the aim of Nilsson '454 is to provide a means to make analysis, by taking up the fluid, mixing it and making it react with a reagent, independently of the skill of those performing the analysis. Applicant concludes that one of ordinary skill in the art is given no motivation or suggestion, which would lead him to the claimed apparatus. Examiner is confused by the statement that Nilsson '454 fails to suggest the claimed apparatus to one of ordinary skill in the art. In the previous Office Action, the claims were anticipated by not obvious over Nilsson '454. Examiner emphasizes that it is not necessary to ascertain the skill of those performing analysis with the apparatus of Nilsson '454. The issue is patentability, which does not require an evaluation of whether if most or all people can perform analysis with the apparatus of Nilsson '454. Nilsson '454 meets all claimed limitations. Therefore, the anticipation by Nilsson '454 is maintained.

#### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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